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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,293	03/12/2004	Paris Smaragdis	MERL-1531	8224
22199 7590 12/18/2007 MITSUBISHI ELECTRIC RESEARCH LABORATORIES, INC. 201 BROADWAY 8TH FLOOR CAMBRIDGE, MA 02139			EXAMINER TSAI, CAROL S W	
			ART UNIT 2857	PAPER NUMBER
			MAIL DATE 12/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/799,293	Applicant(s) SMARAGDIS, PARIS	
	Examiner Carol S. Tsai	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 call for separating components in individual signals per se and is nonstatutory.

The scope of the claim only intends the signal to be separated from a signal sensor with non-negative matrix factor; however, there is no combination of the signal with statutory physical structure to perform a useful, concrete, and tangible result.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, line 2, it is not understandable what is meant by “performing source separation on the”.

Allowable Subject Matter

4. Claim 14 is allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:
6. U.S. Patent No. 6,625,687 Erten et al. in view of U.S Publication 2005/0123053 to Cooper et al. are references closest to the claimed invention. Erten et al. disclose a system separating components in individual signals, comprising: a single sensor configured to acquire concurrently a plurality of individual signals generated by a plurality of source; a buffer configured to store an input non-negative matrix representing the plurality of individual signals. Cooper et al. disclose K columns of the matrix being the basis vectors of the factorization and the K rows of the matrix being the coefficient representations of the columns of the similarity matrix onto this basis. However, Erten et al. in combination with Cooper et al. do not teach the input non-negative matrix including columns representing features of the plurality of individual signals at different instances in time; and means for factoring the first non-negative matrix into a set of non-negative bases matrices and a non-negative weight matrix, the set of bases matrices and the weight matrix representing the plurality of individual signals at the different instances of time; and including all of the other limitations in the respective independent claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
8. Lee et al. disclose methods for encoding input signals in relation to a set of signals comprising a codebook.

9. Baqai discloses a color determination method utilizing color matching functions to approximate the imaging system's sensitivity characteristics.
10. Hashimoto et al. disclose a sound source separation apparatus performing a temporary learning processing and a temporary separation processing with respect to each of a plurality of candidate matrixes (separating matrixes obtained by learning calculation based on input signals of different sound source conditions) stored on a candidate matrix memory in advance.
11. Ramakrishnan et al. disclose a method generating envelope spectra and harmonic spectra from an input broad-band training acoustic signal.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/799,293
Art Unit: 2857

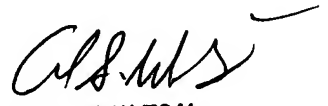
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cswt

December 11, 2007

Art Unit 2857


CAROL S.W. TSAI
PRIMARY EXAMINER